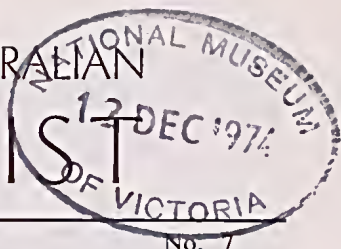


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SEED DORMANCY IN SOME WESTERN AUSTRALIAN PLANTS

By D. H. PERRY, Victoria Park.

It is well known that the seeds of many species of our native plants are very difficult to germinate. There is no doubt that this dormancy factor is inherent in most of the species which are endemic to our arid and semi-arid regions and this obviously has considerable survival value. If all the seeds that ripened and shed were to germinate with the first good rains and the resulting plants were all wiped out by a severe drought before they could produce and ripen a new crop of seed, that particular species would soon disappear. Very little is known at present about the factors that control dormancy in the seeds of our native plants and whilst soaking in hot water, chemical treatment of the seed coat, scarifying the seed coat and alternate soaking and chilling have proved effective with some species, others have failed to respond to any of these treatments. The degree of dormancy inherent in the seeds of some species when left in the ground, unprotected for many years, is demonstrated by the following examples:—

Geraldton Wax, *Chamaelaucium uncinatum*.

A large Geraldton Wax bush grew in the garden of my home for many years and finally became so large and straggly that I cut it down in 1948. This bush was growing in a flower bed in which annuals were grown every year and which was frequently dug over and of course watered in summer. Each year until 1962, several Geraldton Wax plants germinated in this flower bed, a period of fourteen years. In another instance and on another site I chopped down and burnt up several large Geraldton Wax bushes that were about ten years old. This was in 1966 and every year since, a number of seedlings have germinated on the site and I have no doubt will continue to do so for many years to come.

Hop Bush, *Dodonaea attenuata*.

Each year from 1954 to 1957, inclusive, I collected and winnowed and cleaned a quantity of seed of Hop Bush. On the site where the winnowed debris and some seeds were thrown, Hop Bush seeds germinated for many years. There was then a gap of several years and in 1972 a seed germinated on this spot and the plant is now about 18 inches high. This seed must have remained in the ground for a minimum period of 15 years before dormancy was finally broken.

Kangaroo Paw, *Anigozanthos manglesii*.

Following clearing and ploughing, an area within the Gnangara Pine Plantation, which lies some 20 miles north-east of Perth, was planted with pines in 1931. Kangaroo Paws occurred naturally on this site but were few and far between. Following clearing and ploughing a number of plants appeared and could be seen on the area for 5 or 6 years afterwards when the developing pines would have eliminated them. The pines are planted with a close spacing initially and as they develop they gradually shut out the light and begin to deposit a thick layer of needles on the surface. I would estimate that Kangaroo Paws could not have survived under these conditions beyond 1940 at the latest. In the summer of 1961 the pines in this area were destroyed by fire and the following year an amazing crop of Kangaroo Paw plants appeared. These flowered in 1963 and I have never seen such a beautiful sight. The flowering heads were about 30 inches high and it was barely

possible to walk between the plants in some places. It is safe to assume that no seed of this species would have been shed on this area after 1940, and so this seed must have laid in the ground for some 21 years without losing its viability.

A NEW INTRODUCED LAND SNAIL FOR WESTERN AUSTRALIA

By GEORGE W. KENDRICK, Western Australian Museum, Perth and
ERIC H. SEDGWICK, 20 Herbert Road, Harvey.

While gardening at Harvey in April 1969, one of us (E.H.S.) found two unfamiliar snails in a flower pot and forwarded them to the Western Australian Museum. An opinion on their identity was sought from Dr H. M. Laws of the South Australian Museum, who considered them to be probable *Cochlicopa lubrica* (Muller).

In mid-April 1971, Mr C. Bleechmore of Marine Terrace, Albany had a similar encounter in his garden and forwarded a large sample of living snails to the Western Australian Museum. These were similarly identified by Dr Laws.

The species has been collected for a third time, again at Harvey by E.H.S. in mid-November 1972, the snails being found on this occasion in the same area as before, on the ground beneath a pile of fallen leaves. Surprisingly, there are no known occurrences of this species as yet from the Perth district.



Fig. 1. Probable *Cochlicopa lubrica* from Albany, Western Australia, x 5.8
The line indicates actual height.

Western Australian specimens have small, elevated, cylindrically-oblong shells (Fig. 1), with a rounded apex and smooth, glossy, slightly convex, translucent whorls; there is no umbilicus. The aperture is a little oblique, discontinuous and lacks teeth, the outer margin being internally thickened. The columella is stout, straight or slightly concave and whitish. Colour generally a uniform brown. A typical shell from Albany has 5 whorls in a height of 5.6 and width of 2.4 mm.

The body colours are shades of grey, darkest on the head and neck, usually paler along the edges of the foot and on the tail. The internal organs are clearly visible through the shell. Living animals are very active in the presence of moisture. A comprehensive account of *C. lubrica* is given by Pilsbry (1948: 1045-1050) under the genus *Cionella* Jefferys, a synonym of *Cochlicopa* Risso according to Wenz (1959-60: 144-145).

C. lubrica is native to the Palaearctic and Nearctic Regions; subject to confirmation, the present records appear to be the first for the species for Western Australia and possibly Australia. A comparison of local shells with